

Clynx SED Usability Test Report

Safety-Enhanced Design (SED) / NISTIR 7742 Customized Common Industry Format for EHR Usability Testing

Document Version

1.0

Report Generated Date

2026-04-28

Developer

Rigel Networks

Health IT Product Name and Version

Clynx 1.0

Certification Criterion

ONC 45 CFR §170.315(g)(3) Safety-enhanced design

Report Data Source

Completed SED summative usability test record and SLI SED workbook values

SED Testing Concluded

2026-04-26

Submission report: This document presents the Clynx 1.0 Safety-Enhanced Design summative usability test results in a NISTIR 7742-style Common Industry Format for usability testing.

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Title Page

Report Title	SED Usability Test Report of Clynyx
Report Basis	Report based on ISO/IEC 25062:2006 Common Industry Format for Usability Test Reports and NISTIR 7742 Customized Common Industry Format Template for Electronic Health Record Usability Testing.
Product Tested	Clynyx
Version Tested	1.0
Date of Usability Test	2026-04-26
Date of Report	2026-04-28
Report Prepared By	Rigel Networks
User-Centered Design Process	NISTIR 7741, NIST Guide to the Processes Approach for Improving the Usability of Electronic Health Records. Citation: https://www.nist.gov/publications/nistir-7741-nist-guide-processes-approach-improving-usability-electronic-health-records
NISTIR 7742 Citation	https://www.nist.gov/publications/nistir-7742-customized-common-industry-format-template-electronic-health-record

1. Executive Summary

A usability test of **Clynyx** was documented for Safety-Enhanced Design reporting. The purpose of this test was to evaluate the usability of selected user-facing SED workflows and provide evidence of usability for the EHR Under Test (EHRUT) in simulated but representative outpatient behavioral health tasks.

The summative test record identifies **10** de-identified participants and **39** task scenarios across the selected SED criteria. Participant data and task results were recorded using participant identifiers only.

1.1 Summative Test Summary

Field	Report Value
Company Name	Rigel Networks
Product Name	Clynyx
Product Version	1.0
Date All SED Testing Was Concluded	2026-04-26
Description of Intended Users	Behavioral health psychiatrists, psychiatric nurse practitioners, therapists, registered nurses, intake coordinators, care coordinators, medical records users, quality/compliance users, and authorized administrative users who use Clynyx in an outpatient behavioral health setting to manage medication ordering, patient demographics, implantable device information, chart review, and decision support intervention workflows.

1.2 Tested SED Criteria

SED Criterion	Test Scope
a.1 - CPOE Medications	Included
a.2 - CPOE Labs	Not included in this SED test scope

SED Criterion	Test Scope
a.3 - CPOE Imaging	Not included in this SED test scope
a.4 - Drug-Drug	Not included in this SED test scope
a.5 - Demographics	Included
a.14 - Implantable Device List	Included
b.2 - Clinical Information	Not included in this SED test scope
b.3 - Electronic Prescribing	Not included in this SED test scope
b.11 - Decision Support Interventions	Included

1.3 Overall Quantitative Summary

Measure	Value
Participants	10
Task Scenarios	39
Average Task Success (%)	93.3
Average Task Time (seconds)	108.3
Average Task Error Rate (%)	5.1
Average Task Rating (1-5)	4.3

1.4 Criterion-Level Summary

Criterion Tab	Criterion	Tasks	Average Success (%)	Average Time (seconds)	Average Errors (%)	Average Rating
a.1	§170.315(a)(1) Computerized Provider Order Entry-Medications	10	92.1	112.2	5.5	4.29
a.5	§170.315(a)(5) Patient Demographics and Observations	10	94.4	110.3	4.9	4.3
a.14	§170.315(a)(14) Implantable Device List	12	94.2	101.5	4.8	4.27
b.11	§170.315(b)(11) Decision Support Interventions	7	92.1	111.4	5.4	4.14

Task-level satisfaction was captured using a Likert scale where 1 indicates very difficult and 5 indicates very easy. The task-rating measure is used as the satisfaction measure for this summative usability evaluation.

2. Introduction

The EHRUT tested for this report was **Clynx**. The product is intended for outpatient behavioral health settings and supports workflows involving medication ordering, patient demographics and observations, implantable device documentation, chart review, and decision support interventions.

Behavioral health psychiatrists, psychiatric nurse practitioners, therapists, registered nurses, intake coordinators, care coordinators, medical records users, quality/compliance users, and authorized administrative users who use Clynx in an outpatient behavioral health setting to manage medication ordering, patient demographics, implantable device information, chart review, and decision support intervention workflows.

The usability testing attempted to represent realistic exercises and conditions for behavioral health clinical, operational, and administrative users. Measures of effectiveness, efficiency, and user satisfaction were captured through task success, task errors, path deviations, task time, and post-task ease-of-use ratings.

3. Method

3.1 Participants

A total of 10 participants are identified in the summative test record. The participant roster includes representative outpatient behavioral health user roles and administrative/support roles. Participant identifiers replaced names so that individual identities are not tied to test data.

Participant Identifier	Participant Gender	Participant Age	Participant Education	Participant Occupation/Role	Participant Professional Experience	Participant Computer Experience	Participant Product Experience	Participant Assistive Technology Needs
P01	Female	40-49	Doctorate degree	Psychiatrist	180	300	2	No
P02	Male	40-49	Master's degree	Psychiatric Nurse Practitioner	120	216	3	No
P03	Female	30-39	Master's degree	Licensed Clinical Social Worker	96	204	6	No
P04	Male	30-39	Bachelor's degree	Registered Nurse	84	180	3	No
P05	Female	30-39	Bachelor's degree	Intake Coordinator	72	168	6	No
P06	Male	30-39	Bachelor's degree	Care Coordinator / Case Manager	96	192	5	No
P07	Female	40-49	Master's degree	Clinical Supervisor / LICSW	168	240	5	No
P08	Male	40-49	Associate degree	Patient Access / Administrative Specialist	132	216	5	No
P09	Female	30-39	Associate degree	Medical Records / RHIT Specialist	156	240	3	No
P10	Female	40-49	Bachelor's degree	Quality and Compliance Analyst	120	240	3	No

Participant control: Participants represented current or expected outpatient behavioral health users and were identified only by de-identified participant IDs in the report data.

3.2 Study Design

The study was designed to evaluate whether intended users could complete representative workflows effectively, efficiently, and with acceptable satisfaction. All participants used the same EHRUT version and the same task instructions for each applicable scenario. The completed test record includes task-level quantitative results for task success, path deviation, time on task, error rate, and satisfaction rating.

3.3 Tasks

Task scenarios were constructed to represent common and risk-relevant activities associated with the selected SED criteria. The selected criteria and task counts are shown below.

Criterion Tab	Criterion	Tasks	Average Success (%)	Average Time (seconds)	Average Errors (%)	Average Rating
a.1	§170.315(a)(1) Computerized Provider Order Entry-Medications	10	92.1	112.2	5.5	4.29
a.5	§170.315(a)(5) Patient Demographics and Observations	10	94.4	110.3	4.9	4.3
a.14	§170.315(a)(14) Implantable Device List	12	94.2	101.5	4.8	4.27
b.11	§170.315(b)(11) Decision Support Interventions	7	92.1	111.4	5.4	4.14

3.4 Procedure

Participants were assigned de-identified participant IDs. Each participant was presented with written task instructions. The administrator read the task description, instructed the participant to begin, and recorded the task outcome after the participant indicated completion or stopped performing the task. Participants were instructed to complete tasks without assistance and with as few errors and path deviations as possible.

The data logger recorded task success, time on task, observed path deviations, errors, participant comments/verbalizations where applicable, and post-task ease-of-use ratings.

3.5 Test Location

The summative usability test was conducted in a controlled remote test setting using the Clynx 1.0 certification test environment.

3.6 Test Environment

The EHRUT was a browser-based outpatient behavioral health EHR test environment running **Clynx**. The environment used production-representative application workflows, API services, authentication, database-backed records, and role-based access controls for the tested medication ordering, demographics, implantable device, and decision support intervention workflows.

3.7 Test Forms and Tools

The following materials were used for this report: participant roster, moderator task scenarios, task data collection worksheet, post-task Likert rating scale, and completed SLI SED workbook values.

3.8 Participant Instructions

Participants were instructed that the study evaluated the system, not the participant. For each task, they were asked to complete the task as quickly as possible, with as few errors and deviations as possible, and without assistance. After each task, they were asked to rate how easy or difficult the task was on a 1 to 5 Likert scale.

3.9 Usability Metrics and Data Scoring

Measure	Scoring Method Used in Report
Effectiveness: Task Success	A task was counted as successful when the participant completed the expected outcome without assistance within the allotted task conditions. Task success is reported as a mean percentage and standard deviation.
Effectiveness: Task Errors	Errors include incorrect entries, wrong screens, incorrect selections, incomplete actions, or other user actions that affected task completion or required correction. Task errors are reported as mean percentage and standard deviation.
Efficiency: Path Deviation	Observed steps/path deviations were compared against the optimal path for the task. Observed and optimal values are included for each task.
Efficiency: Task Time	Task time was measured in seconds. Mean task time, standard deviation, observed time deviation, and optimal time deviation are included for each task.
Satisfaction: Task Rating	Task rating was captured using a Likert scale from 1 to 5, where higher values indicate easier task experience.

4. Results

4.1 Data Analysis and Reporting

The following results present the completed SED task data for each selected criterion. Values are shown using the report formatting needed for direct certification submission review.

a.1 — §170.315(a)(1) Computerized Provider Order Entry-Medications

Task Identifier	Task Description	Task Success - Mean (%)	Task Success - Std Dev (%)	Task Path Deviation - Observed #	Task Path Deviation - Optimal #	Task Time - Mean (seconds)	Task Time - Standard Deviation (seconds)	Task Time Deviation - Observed Seconds	Task Time Deviation - Optimal Seconds	Task Errors - Mean (%)	Task Errors - Std Dev (%)	Task Rating - Scale Type	Task Rating	Task Rating - Standard Deviation	Participant Identifiers	UCD Process Selected	UCD Process Details
a1.1	Search for a medication and enter a new outpatient medication order with dose, route, frequency, start date, duration, quantity, and patient instructions.	92	8.4	12	9	128	24	31	18	5.8	4.1	Likert Scale	4.3	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR7741	NISTIR7741 was applied during design and evaluation of the CPOE medication ordering workflow using representative behavioral health medication-order scenarios and iterative usability refinement.
a1.2	Review the patient's current medication list and visually verify existing medications before entering a new outpatient medication order.	86	12.6	14	10	146	29	39	22	9.4	6.2	Likert Scale	4	0.7	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR7741	NISTIR7741 was applied to improve medication-list review, reduce duplicate-order risk, and support safer medication ordering decisions.
a1.3	Open an existing medication order, change one or more order details (dose, route, frequency, quantity, refills, or patient instructions), save, and confirm the updated values display on the medication list.	95.1	6.8	10	8	96	18	24	14	4.2	3.5	Likert Scale	4.4	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR7741	NISTIR7741 was applied to optimize editing of pending medication orders and validate that users can correct order details before completion.
a1.4	Open an active medication, mark it Inactive, enter a discontinuation reason, save, and confirm the medication's status shows as Inactive on the patient's record.	97.3	5.1	8	6	74	15	18	10	2.9	2.1	Likert Scale	4.5	0.4	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR7741	NISTIR7741 was applied to the medication discontinuation workflow to support clear status changes and reduce risk of continued use of discontinued medications.
a1.5	From the patient's current medication list, open an active medication, update its end date, number of refills, or dispensed quantity to continue therapy, save, and confirm the medication remains active with the new values.	89.8	9.7	11	8	112	21	28	16	6.1	4.4	Likert Scale	4.2	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR7741	NISTIR7741 was applied to medication renewal and reorder workflows with representative users to improve completion accuracy and efficiency.
a1.6	Within an active outpatient behavioral-health encounter, create a new medication order, select the encounter from the encounter dropdown to associate the order, and confirm the order is linked to the correct patient and encounter.	90.7	8.9	13	9	134	26	33	19	5.6	3.9	Likert Scale	4.2	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR7741	NISTIR7741 was applied to evaluate medication ordering within encounter context and reduce wrong-patient or wrong-encounter workflow risk.
a1.7	Start a new medication order, review the entered details, cancel before saving, and confirm that no unintended medication order was created.	96.4	5.6	9	7	82	16	20	12	3.2	2.4	Likert Scale	4.5	0.4	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR7741	NISTIR7741 was applied to validate safe cancellation behavior and prevent unintended medication orders from being saved.
a1.8	Search for a behavioral-health medication and select the correct medication code from search results. Specify form, strength, and route on the order form before saving.	88.9	10.2	15	10	152	31	42	24	7.8	5.6	Likert Scale	4.1	0.7	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR7741	NISTIR7741 was applied to medication search and selection workflows to reduce selection errors involving medication strength, form, and route.
a1.9	Open the patient's medication record. Identify which medications are currently Active vs Inactive, identify a medication's fill status (Requested, Being Filled, Dispensed, Collected, or Completed), and view the discontinuation reason for any inactive	91.6	8.1	10	8	104	20	26	15	5	3.6	Likert Scale	4.3	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR7741	NISTIR7741 was applied to medication-history review workflows to support safe chart review and accurate medication status interpretation.
a1.10	After creating or changing a medication order, return to the patient summary or medication section and verify that the order appears with correct status and key details.	93.2	7.4	9	7	94	18	23	13	4.6	3.2	Likert Scale	4.4	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR7741	NISTIR7741 was applied to post-order verification workflows to confirm that medication order results are visible, understandable, and associated with the correct patient.

a.5 — §170.315(a)(5) Patient Demographics and Observations

Task Identifier	Task Description	Task Success - Mean (%)	Task Success - Std Dev (%)	Task Path Deviation - Observed #	Task Path Deviation - Optimal #	Task Time - Mean (seconds)	Task Time - Standard Deviation (seconds)	Task Time Deviation - Observed Seconds	Task Time Deviation - Optimal Seconds	Task Errors - Mean (%)	Task Errors - Std Dev (%)	Task Rating - Scale Type	Task Rating	Task Rating - Standard Deviation	Participant Identifiers	UCD Process Selected	UCD Process Details
a5.1	Register a new outpatient behavioral health patient and record core demographics including legal name, date of birth, sex, race, ethnicity, preferred language, address, phone, email, and emergency/contact information.	95.2	6.7	13	10	138	24	34	20	4.6	3.3	Likert Scale	4.3	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied during design and evaluation of demographic capture workflows using representative behavioral health end users and iterative usability refinement.
a5.2	Update an existing patient demographic record during intake, including revised address, phone, email, race, ethnicity, preferred language, and declined-to-specify responses where supported.	93.8	7.9	12	9	121	22	30	17	5.2	3.8	Likert Scale	4.2	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to optimize demographic update workflows and reduce data-entry error risk during intake and registration.
a5.3	Record or update patient race, ethnicity, and preferred language using available coded selections and confirm that declined-to-specify options can be saved where supported.	94.6	6.4	11	8	116	21	28	16	4.8	3.4	Likert Scale	4.3	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to improve selection, clarity, and confirmation of race, ethnicity, language, and declined-to-specify demographic fields.
a5.4	Review and correct a demographic discrepancy identified during patient check-in or intake, then save and confirm the corrected information is retrievable in the patient chart.	96.4	5.1	10	8	94	18	22	12	3.1	2.4	Likert Scale	4.5	0.4	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to support safe review, correction, and confirmation of patient demographic data within routine outpatient workflows.
a5.5	Access patient demographics from the chart header (name, date of birth, patient ID, race, ethnicity) and from the Demographics tab (sex, preferred language, address, contact) before documenting care during an encounter.	91.7	9.4	9	7	86	16	20	11	6.4	4.1	Likert Scale	4.1	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to improve visibility and retrieval of demographic information needed at the point of care.
a5.6	Open the patient's intake/profile and record supported observation information for a behavioral-health visit, including smoking/tobacco-use status with date, sexual orientation, and gender-identity / transgender consideration. Save and confirm the values display on the patient profile.	94.9	6.3	11	8	108	19	26	14	4.7	3.1	Likert Scale	4.4	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to validate usability of supported identity and observation fields in ongoing behavioral health workflows.
a5.7	Add or update patient contact information including cell phone, home phone, email, address, and emergency contact, then verify the saved values in the patient profile.	95.7	5.8	10	8	102	18	24	13	4.2	3	Likert Scale	4.4	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to patient contact workflows to reduce registration errors and improve retrieval of current contact information.
a5.8	Search for an existing patient by name or date of birth, open the correct patient chart, and verify identity by confirming multiple displayed demographic fields (full name, DOB, sex, address, phone) match the patient's information before making changes.	92.6	8.5	14	10	132	26	35	21	6.8	4.6	Likert Scale	4.1	0.7	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to patient search and identity confirmation workflows to reduce wrong-patient selection risk.
a5.9	Update supported patient identity fields such as name to use, sex, date of birth, or other configured patient identity fields, then confirm the updated values are displayed consistently.	93.4	7.2	12	9	118	22	29	17	5.5	3.7	Likert Scale	4.2	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to patient identity field workflows to support clear data entry, review, and consistent display of saved values.
a5.10	Review the patient summary after saving demographic or observation updates and confirm that the updated information remains visible and available for future clinical or administrative use.	96.1	5.4	9	7	88	17	21	12	3.5	2.6	Likert Scale	4.5	0.4	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to post-save verification workflows to confirm that demographic and observation updates are visible, understandable, and retrievable.

a.14 — §170.315(a)(14) Implantable Device List

Task Identifier	Task Description	Task Success - Mean (%)	Task Success - Std Dev (%)	Task Path Deviation - Observed #	Task Path Deviation - Optimal #	Task Time - Mean (seconds)	Task Time - Standard Deviation (seconds)	Task Time Deviation - Observed Seconds	Task Time Deviation - Optimal Seconds	Task Errors - Mean (%)	Task Errors - Std Dev (%)	Task Rating - Scale Type	Task Rating	Task Rating - Standard Deviation	Participant Identifiers	UCD Process Selected	UCD Process Details
a14.1	Record a patient implantable device by entering the UDI or device identifier, saving the device to the patient chart, and confirming the device appears in the implantable device list.	95.6	5.8	11	8	96	18	24	12	4.1	2.9	Likert Scale	4.4	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied during design and evaluation of implantable device capture workflows for behavioral health users who occasionally document external medical devices.
a14.2	Enter a UDI and confirm the system stores available device identifier and production identifier elements such as lot number, serial number, manufacture date, and expiration date when present.	92.8	7.4	13	9	112	21	30	16	5.8	3.7	Likert Scale	4.1	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to improve usability of structured UDI entry and parsing of production identifier elements in the implantable device workflow.
a14.3	Obtain and associate implantable device details for a recorded device, including device description and supported attributes such as brand, version or model, manufacturer, and safety or alert text where available.	91.9	8.2	14	10	128	25	36	20	6.2	4	Likert Scale	4	0.7	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to the device-details workflow to support safe review and association of implantable device descriptive attributes within the patient record.

Task Identifier	Task Description	Task Success - Mean (%)	Task Success - Std Dev (%)	Task Path Deviation - Observed #	Task Path Deviation - Optimal #	Task Time - Mean (seconds)	Task Time - Standard Deviation (seconds)	Task Time Deviation - Observed Seconds	Task Time Deviation - Optimal Seconds	Task Errors - Mean (%)	Task Errors - Std Dev (%)	Task Rating - Scale Type	Task Rating	Task Rating - Standard Deviation	Participant Identifiers	UCD Process Selected	UCD Process Details
a14.4	Display the patient implantable device list showing active recorded devices and device description, then open the list entry for review.	97.1	4.3	8	6	72	14	16	8	2.7	2.1	Likert Scale	4.6	0.4	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to optimize visibility of active implantable devices and rapid access to device records from the medical history view.
a14.5	Access a previously recorded implantable device and review the full stored information, including identifier, description, parsed identifiers, and supported attributes.	95	5.6	9	7	84	15	18	9	3.9	2.8	Likert Scale	4.4	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to ensure users can efficiently retrieve and review complete implantable device information after recording.
a14.6	Change the status of a recorded implantable device, for example from Active to Removed or Inactive, and verify the updated status is retained and viewable in the patient chart.	94.2	6.1	10	7	88	17	21	10	4.5	3	Likert Scale	4.3	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to the implantable device status-management workflow to reduce error risk when updating device lifecycle state in the chart.
a14.7	Edit a previously saved implantable device entry to correct an incorrect device identifier, serial number, lot number, or device description, then save and confirm the corrected value.	93.5	6.9	12	8	106	20	27	14	5.1	3.4	Likert Scale	4.2	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to device correction workflows to support accurate maintenance of implantable device information and reduce persistent data-entry errors.
a14.8	Add an implantable device when the full UDI is not available by entering the device identifier in the UDI field, allowing the system to parse what it can, and manually completing brand name, manufacturer and model on the form before saving.	90.6	9.1	15	10	142	28	40	23	7.4	4.9	Likert Scale	4	0.7	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to alternate device-entry workflows where users have partial device information and can continue documenting available implantable device details.
a14.9	Locate a specific implantable device record by scrolling the patient's device history and identifying the device by its description, brand name, or status badge.	92.4	7.8	13	9	118	22	32	18	5.9	3.8	Likert Scale	4.1	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to device-history retrieval workflows to improve findability when more than one device is recorded for a patient.
a14.10	Verify that implantable device information remains associated with the correct patient after saving and returning to the patient summary or medical history section.	96.3	5.2	9	7	82	16	19	10	3.4	2.5	Likert Scale	4.5	0.4	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to post-save verification workflows to reduce wrong-patient documentation risk and confirm device information is retained in the correct chart.
a14.11	Open the patient chart, navigate to Medical History, review the implantable device list and individual device details, then return to the encounter to complete the encounter note.	94.7	6.4	10	8	92	18	23	12	4.6	3.1	Likert Scale	4.3	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to point-of-care device review workflows to ensure device information is visible and understandable during clinical documentation.
a14.12	Confirm that inactive or removed implantable devices remain on the device list with their inactive/removed status badge while active devices remain clearly distinguishable by an active status badge in the same list.	95.8	5.7	11	8	98	19	25	13	4.2	2.9	Likert Scale	4.4	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to active-versus-inactive device display workflows to support safe interpretation of current and historical implantable device records.

b.11 — §170.315(b)(11) Decision Support Interventions

Task Identifier	Task Description	Task Success - Mean (%)	Task Success - Std Dev (%)	Task Path Deviation - Observed #	Task Path Deviation - Optimal #	Task Time - Mean (seconds)	Task Time - Standard Deviation (seconds)	Task Time Deviation - Observed Seconds	Task Time Deviation - Optimal Seconds	Task Errors - Mean (%)	Task Errors - Std Dev (%)	Task Rating - Scale Type	Task Rating	Task Rating - Standard Deviation	Participant Identifiers	UCD Process Selected	UCD Process Details
b11.1	Review a decision support intervention displayed in the patient chart, read the intervention message and severity, and choose an appropriate action: Acknowledge to accept, Dismiss to override, or collapse the alert panel to continue with chart review.	95.2	5.7	10	7	78	16	18	9	3.8	2.7	Likert Scale	4.4	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied during design and evaluation of clinician-facing decision support review workflows in Clynx 1.0.
b11.2	Review a decision support intervention triggered during patient intake or chart review for a behavioral-health patient (such as a duplicate-medication, drug-allergy, or problem-medication interaction alert), interpret the recommendation, and document an appropriate response.	92.6	7.1	12	8	104	21	26	13	5.1	3.4	Likert Scale	4.2	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to improve usability of intervention presentation, user comprehension, and response capture for behavioral health workflows.
b11.3	Review the available details for a decision support intervention, including summary, reason, source, reference, or supporting information where available.	93.8	6.4	11	8	96	18	22	11	4.6	3.1	Likert Scale	4.3	0.5	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to improve clarity of intervention details and support user understanding before action is taken.
b11.4	Record a response to a displayed decision support intervention by selecting Acknowledge to accept or Dismiss to override, optionally entering a feedback reason and free-text comment, then save the response.	91.4	7.8	12	9	112	22	28	15	5.4	3.7	Likert Scale	4.1	0.6	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to response-recording workflows so users can document intervention handling in a clear and consistent manner.
b11.5	Navigate to the CDS Feedback Report from the menu, filter by patient and date range to locate a previously recorded decision support response, and confirm the prior feedback action, reason, and comment are visible for review.	90.8	7.9	14	10	134	26	34	18	6.1	4	Likert Scale	4	0.7	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to retrieval and review workflows so authorized users can access prior intervention activity when needed.

Task Identifier	Task Description	Task Success - Mean (%)	Task Success - Std Dev (%)	Task Path Deviation - Observed #	Task Path Deviation - Optimal #	Task Time - Mean (seconds)	Task Time - Standard Deviation (seconds)	Task Time Deviation - Observed Seconds	Task Time Deviation - Optimal Seconds	Task Errors - Mean (%)	Task Errors - Std Dev (%)	Task Rating - Scale Type	Task Rating	Task Rating - Standard Deviation	Participant Identifiers	UCD Process Selected	UCD Process Details
b11.6	As an authorized administrator, open the CDS Interventions list, edit a configured intervention, change its enabled status (Active/Inactive) or target workflow (form key or evaluator type), save the change, and confirm the updated configuration is reflected in the list.	89.9	8.3	13	9	122	24	31	16	6.4	4.2	Likert Scale	4	0.7	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to administrator and clinical-lead workflows for reviewing and maintaining decision support configuration where available.
b11.7	Submit or save feedback on a decision support intervention where available, then verify that the feedback or response record is retained for review by authorized users.	90.8	7.9	14	10	134	26	34	18	6.1	4	Likert Scale	4	0.7	P01,P02,P03,P04,P05,P06,P07,P08,P09,P10	NISTIR 7741	NISTIR 7741 was applied to feedback-capture workflows so users can provide structured usability or clinical relevance feedback on interventions.

4.2 Discussion of the Findings

Effectiveness

Across all task rows, average task success was **93.3%**. The highest criterion-level average success was observed for **a.5 Patient Demographics and Observations** at **94.4%**. The selected workflows generally show successful completion rates above 89% at the task level.

Efficiency

Across all task rows, average task time was **108.3 seconds**. The task data captures both observed and optimal path/time deviation values, allowing task-level identification of workflows where users took longer paths or required additional time compared with the optimal path.

Satisfaction

The average task rating across all task rows was **4.26** on a 1 to 5 Likert scale. Criterion-level average ratings ranged from **4.14** to **4.3**, indicating generally favorable ease-of-use ratings for the tested scenarios.

Major Findings

Finding Area	Observed Pattern
Medication ordering	CPOE medication tasks show average success of 92.1% and average task rating of 4.29.
Demographics and observations	Demographics tasks show the strongest criterion-level average success at 94.4%.
Implantable device list	Implantable device list tasks include the largest task set in the evaluation with 12 scenarios and average success of 94.2%.
Decision support interventions	Decision support intervention workflows show average success of 92.1% and average rating of 4.14.

Areas for Improvement

The task results show comparatively lower success and satisfaction on longer workflows, configuration actions, filtering/report review, partial UDI/device entry, medication selection, and decision-support configuration or feedback review. These findings were used to identify usability maintenance priorities involving clearer labels, fewer steps where practical, stronger confirmation messages, and more visible post-save status information.

5. Appendices

Appendix 1: Recruiting Screener Summary

Representative participants matched outpatient behavioral health use roles, including psychiatry, nursing, therapy, intake, care coordination, medical records, quality/compliance, and authorized administrative responsibilities. Participant records document role relevance, EHR/computer experience, and use-context alignment.

Appendix 2: Participant Demographics

Gender

Category	Count
Female	6
Male	4

Age Range

Category	Count
40-49	5
30-39	5

Education

Category	Count
Doctorate degree	1
Master's degree	3
Bachelor's degree	4
Associate degree	2

Full De-Identified Participant Breakdown

Participant Identifier	Participant Gender	Participant Age	Participant Education	Participant Occupation/Role	Participant Professional Experience	Participant Computer Experience	Participant Product Experience	Participant Assistive Technology Needs
P01	Female	40-49	Doctorate degree	Psychiatrist	180	300	2	No
P02	Male	40-49	Master's degree	Psychiatric Nurse Practitioner	120	216	3	No
P03	Female	30-39	Master's degree	Licensed Clinical Social Worker	96	204	6	No
P04	Male	30-39	Bachelor's degree	Registered Nurse	84	180	3	No

Participant Identifier	Participant Gender	Participant Age	Participant Education	Participant Occupation/Role	Participant Professional Experience	Participant Computer Experience	Participant Product Experience	Participant Assistive Technology Needs
P05	Female	30-39	Bachelor's degree	Intake Coordinator	72	168	6	No
P06	Male	30-39	Bachelor's degree	Care Coordinator / Case Manager	96	192	5	No
P07	Female	40-49	Master's degree	Clinical Supervisor / LICSW	168	240	5	No
P08	Male	40-49	Associate degree	Patient Access / Administrative Specialist	132	216	5	No
P09	Female	30-39	Associate degree	Medical Records / RHIT Specialist	156	240	3	No
P10	Female	40-49	Bachelor's degree	Quality and Compliance Analyst	120	240	3	No

Appendix 3: Informed Consent and Confidentiality

Participants reviewed the usability test purpose and confidentiality expectations before testing. Test data was recorded and reported using de-identified participant IDs.

Appendix 4: Moderator's Guide and Task Scenarios

Task ID	Criterion	Moderator Task Scenario	Success Criteria
a1.1	§170.315(a)(1) Computerized Provider Order Entry-Medications	Search for a medication and enter a new outpatient medication order with dose, route, frequency, start date, duration, quantity, and patient instructions.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a1.2	§170.315(a)(1) Computerized Provider Order Entry-Medications	Review the patient's current medication list and visually verify existing medications before entering a new outpatient medication order.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a1.3	§170.315(a)(1) Computerized Provider Order Entry-Medications	Open an existing medication order, change one or more order details (dose, route, frequency, quantity, refills, or patient instructions), save, and confirm the updated values display on the medication list.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a1.4	§170.315(a)(1) Computerized Provider Order Entry-Medications	Open an active medication, mark it inactive, enter a discontinuation reason, save, and confirm the medication's status shows as inactive on the patient's record.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a1.5	§170.315(a)(1) Computerized Provider Order Entry-Medications	From the patient's current medication list, open an active medication, update its end date, number of refills, or dispensed quantity to continue therapy, save, and confirm the medication remains active with the new values.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a1.6	§170.315(a)(1) Computerized Provider Order Entry-Medications	Within an active outpatient behavioral-health encounter, create a new medication order, select the encounter from the encounter dropdown to associate the order, and confirm the order is linked to the correct patient and encounter.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a1.7	§170.315(a)(1) Computerized Provider Order Entry-Medications	Start a new medication order, review the entered details, cancel before saving, and confirm that no unintended medication order was created.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a1.8	§170.315(a)(1) Computerized Provider Order Entry-Medications	Search for a behavioral-health medication and select the correct medication code from search results. Specify form, strength, and route on the order form before saving.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.

Task ID	Criterion	Moderator Task Scenario	Success Criteria
a1.9	§170.315(a)(1) Computerized Provider Order Entry-Medications	Open the patient's medication record. Identify which medications are currently Active vs Inactive, identify a medication's fill status (Requested, Being Filled, Dispensed, Collected, or Completed), and view the discontinuation reason for any inactive	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a1.10	§170.315(a)(1) Computerized Provider Order Entry-Medications	After creating or changing a medication order, return to the patient summary or medication section and verify that the order appears with correct status and key details.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a5.1	§170.315(a)(5) Patient Demographics and Observations	Register a new outpatient behavioral health patient and record core demographics including legal name, date of birth, sex, race, ethnicity, preferred language, address, phone, email, and emergency/contact information.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a5.2	§170.315(a)(5) Patient Demographics and Observations	Update an existing patient demographic record during intake, including revised address, phone, email, race, ethnicity, preferred language, and declined-to-specify responses where supported.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a5.3	§170.315(a)(5) Patient Demographics and Observations	Record or update patient race, ethnicity, and preferred language using available coded selections and confirm that declined-to-specify options can be saved where supported.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a5.4	§170.315(a)(5) Patient Demographics and Observations	Review and correct a demographic discrepancy identified during patient check-in or intake, then save and confirm the corrected information is retrievable in the patient chart.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a5.5	§170.315(a)(5) Patient Demographics and Observations	Access patient demographics from the chart header (name, date of birth, patient ID, race, ethnicity) and from the Demographics tab (sex, preferred language, address, contact) before documenting care during an encounter.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a5.6	§170.315(a)(5) Patient Demographics and Observations	Open the patient's intake/profile and record supported observation information for a behavioral-health visit, including smoking/tobacco-use status with date, sexual orientation, and gender-identity / transgender consideration. Save and confirm the values display on the patient profile.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a5.7	§170.315(a)(5) Patient Demographics and Observations	Add or update patient contact information including cell phone, home phone, email, address, and emergency contact, then verify the saved values in the patient profile.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a5.8	§170.315(a)(5) Patient Demographics and Observations	Search for an existing patient by name or date of birth, open the correct patient chart, and verify identity by confirming multiple displayed demographic fields (full name, DOB, sex, address, phone) match the patient's information before making changes.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a5.9	§170.315(a)(5) Patient Demographics and Observations	Update supported patient identity fields such as name to use, sex, date of birth, or other configured patient identity fields, then confirm the updated values are displayed consistently.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a5.10	§170.315(a)(5) Patient Demographics and Observations	Review the patient summary after saving demographic or observation updates and confirm that the updated information remains visible and available for future clinical or administrative use.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.1	§170.315(a)(14) Implantable Device List	Record a patient implantable device by entering the UDI or device identifier, saving the device to the patient chart, and confirming the device appears in the implantable device list.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.2	§170.315(a)(14) Implantable Device List	Enter a UDI and confirm the system stores available device identifier and production identifier elements such as lot number, serial number, manufacture date, and expiration date when present.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.

Task ID	Criterion	Moderator Task Scenario	Success Criteria
a14.3	§170.315(a)(14) Implantable Device List	Obtain and associate implantable device details for a recorded device, including device description and supported attributes such as brand, version or model, manufacturer, and safety or alert text where available.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.4	§170.315(a)(14) Implantable Device List	Display the patient implantable device list showing active recorded devices and device description, then open the list entry for review.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.5	§170.315(a)(14) Implantable Device List	Access a previously recorded implantable device and review the full stored information, including identifier, description, parsed identifiers, and supported attributes.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.6	§170.315(a)(14) Implantable Device List	Change the status of a recorded implantable device, for example from Active to Removed or Inactive, and verify the updated status is retained and viewable in the patient chart.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.7	§170.315(a)(14) Implantable Device List	Edit a previously saved implantable device entry to correct an incorrect device identifier, serial number, lot number, or device description, then save and confirm the corrected value.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.8	§170.315(a)(14) Implantable Device List	Add an implantable device when the full UDI is not available by entering the device identifier in the UDI field, allowing the system to parse what it can, and manually completing brand name, manufacturer and model on the form before saving.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.9	§170.315(a)(14) Implantable Device List	Locate a specific implantable device record by scrolling the patient's device history and identifying the device by its description, brand name, or status badge.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.10	§170.315(a)(14) Implantable Device List	Verify that implantable device information remains associated with the correct patient after saving and returning to the patient summary or medical history section.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.11	§170.315(a)(14) Implantable Device List	Open the patient chart, navigate to Medical History, review the implantable device list and individual device details, then return to the encounter to complete the encounter note.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
a14.12	§170.315(a)(14) Implantable Device List	Confirm that inactive or removed implantable devices remain on the device list with their inactive/removed status badge while active devices remain clearly distinguishable by an active status badge in the same list.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
b11.1	§170.315(b)(11) Decision Support Interventions	Review a decision support intervention displayed in the patient chart, read the intervention message and severity, and choose an appropriate action: Acknowledge to accept, Dismiss to override, or collapse the alert panel to continue with chart review.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
b11.2	§170.315(b)(11) Decision Support Interventions	Review a decision support intervention triggered during patient intake or chart review for a behavioral-health patient (such as a duplicate-medication, drug-allergy, or problem-medication interaction alert), interpret the recommendation, and document an appropriate response.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
b11.3	§170.315(b)(11) Decision Support Interventions	Review the available details for a decision support intervention, including summary, reason, source, reference, or supporting information where available.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
b11.4	§170.315(b)(11) Decision Support Interventions	Record a response to a displayed decision support intervention by selecting Acknowledge to accept or Dismiss to override, optionally entering a feedback reason and free-text comment, then save the response.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.

Task ID	Criterion	Moderator Task Scenario	Success Criteria
b11.5	§170.315(b)(11) Decision Support Interventions	Navigate to the CDS Feedback Report from the menu, filter by patient and date range to locate a previously recorded decision support response, and confirm the prior feedback action, reason, and comment are visible for review.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
b11.6	§170.315(b)(11) Decision Support Interventions	As an authorized administrator, open the CDS Interventions list, edit a configured intervention, change its enabled status (Active/Inactive) or target workflow (form key or evaluator type), save the change, and confirm the updated configuration is reflected in the list.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.
b11.7	§170.315(b)(11) Decision Support Interventions	Submit or save feedback on a decision support intervention where available, then verify that the feedback or response record is retained for review by authorized users.	Success if task outcome is achieved without assistance within the allotted time and correct information is saved, reviewed, or confirmed as described.

Appendix 5: Satisfaction Rating Instrument

The evaluation uses a task-level Likert scale. Participants rate each task using the following scale: 1 = Very Difficult, 2 = Difficult, 3 = Neutral, 4 = Easy, 5 = Very Easy.

Appendix 6: Incentive Receipt and Acknowledgment

No participant compensation information is reported in this SED usability report.

Appendix 7: Report Data Integrity Checklist

Item	Status
Participant identifiers unique	Yes
Participant count	10
Task identifiers unique across selected sheets	Yes
Selected SED criteria with task rows	a.1, a.5, a.14, b.11
Date all SED testing was concluded	2026-04-26
Product name	Clynix